

WHAT IS CLAIMED IS:

1 1. A generic call server in a telecommunications network for
2 performing call-control functions and interfacing between any two
3 network components selected from a plurality of network components
4 that utilize a plurality of different signaling protocols, said call server
5 comprising:

6 a Generic Call-control State Machine (GCSM) that performs call-
7 control functions that are common to all of the protocols; and

8 a plurality of external signaling systems that interface between the
9 GCSM and the selected network components and perform call-control
10 functions that are specific to each protocol.

1 2. The generic call server of claim 1 further comprising a
2 Media Gateway (MGW) Handler that acts as a media signaling protocol
3 handling server and interfaces between the GCSM and a media gateway.

1 3. The generic call server of claim 2 wherein some of the
2 network components are in a packet-switched network and some of the
3 network components are in a circuit-switched network, and the MGW
4 Handler includes logic that immediately returns a media acknowledgment
5 message to the GCSM when the GCSM requests that a media context be

6 created, and the network component being interfaced with the GCSM is
7 in a circuit-switched network.

1 4. The generic call server of claim 1 wherein the GCSM
2 includes:

3 a plurality of call-control states that are common to all of the
4 signaling protocols, each state having at least one defined internal
5 signaling message that is sent to an external signaling system upon
6 entering the state; and

7 at least one triggering event associated with each state, the
8 triggering event causing the GCSM to enter the associated state.

1 5. The generic call server of claim 4 wherein each of the
2 plurality of external signaling systems includes means for converting
3 internal signaling messages received from the GCSM to protocol-specific
4 messages that are sent to the network components.

1 6. The generic call server of claim 5 wherein the means for
2 converting internal signaling messages received from the GCSM to
3 protocol-specific messages includes at least one adaptation protocol layer
4 corresponding to the upper layers in each signaling protocol.

1 7. A generic call server in a telecommunications network for
2 performing call-control functions and interfacing between a plurality of
3 different network components that utilize a plurality of signaling
4 protocols, said call server comprising:

5 a Generic Call-control State Machine (GCSM) that performs call-
6 control functions that are common to all of the protocols, the GCSM
7 including:

8 a plurality of call-control states that are common to all of the
9 signaling protocols, each state having at least one defined internal
10 signaling message that is sent to an external signaling system upon
11 entering the state; and

12 at least one triggering event associated with each state, the
13 triggering event causing the GCSM to enter the associated state;

14 a plurality of external signaling systems that perform call-control
15 functions that are specific to each protocol, and interface between the
16 GCSM and the network components; and

17 a Media Gateway (MGW) Handler that acts as a media signaling
18 protocol handling server and interfaces between the GCSM and a media
19 gateway.

1 8. In a telecommunications network, a Generic Call-control
2 State Machine (GCSM) for performing call-control functions that are
3 common to a plurality of signaling protocols, said GCSM interfacing
4 with a plurality of external signaling systems that perform call-control
5 functions that are specific to each signaling protocol, said GCSM
6 comprising:

7 a plurality of call-control states that are common to all of the
8 signaling protocols, each state having at least one defined internal
9 signaling message that is sent to an external signaling system upon
10 entering the state; and

11 at least one triggering event associated with each state, the
12 triggering event causing the GCSM to enter the associated state.

1 9. In a telecommunications network in which call-control logic
2 is utilized to perform call-control functions, and a plurality of different
3 network components utilize a plurality of different signaling protocols,
4 a method of performing the call-control functions and interfacing
5 between any two components utilizing any two protocols without
6 redesigning the call-control logic, said method comprising the steps of:
7 performing call-control functions that are common to all of the
8 protocols with a Generic Call-control State Machine (GCSM);

9 performing call-control functions that are specific to each protocol
10 with a plurality of external signaling systems that are in communication
11 with the GCSM;

12 communicating between the GCSM and the external signaling
13 systems utilizing internal signaling messages;

14 converting between the internal signaling messages and selected
15 protocol-specific messages in the external signaling systems; and

16 communicating between the external signaling systems and the
17 network components utilizing the protocol-specific messages.

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